AMENDMENTS TO THE SPECIFICATION:

Page 1, after the title insert the following:

This application is the U.S. National phase of international application PCT/SEO2/00264 filed 14 February 2002 which designates the U.S.

Please amend the paragraph beginning at page 1, line 6, and continuing to page 1, line 18, as follows:

Optical attenuating elements can be manufactured by welding two optical fibers to each other with a lateral offset of the fibers, i.e. a splice having an intentionally produced lacking alignment of the cores of the fibers is manufactured and thus having a large loss. Then a welding device of the automatic type having a modified control program can be used. The control of the welding process can be performed in real time. The electronic processor of the welding device can, for example, in real time get information from ~~an~~ a power meter measuring the power of light coming from a light source and propagating through the splice during the welding process, and use the information to control the electric arc. The method comprises ~~that~~ first selecting a desired lost ~~is selected~~. Then a splice having an offset is made. During the heating in the splicing process a current loss is ~~all the time~~essentially continually read. The molten glass material in the fibers has a surface tension reducing the offset and the loss gradually falls during the heating. When the loss has decreased to the desired loss the electric arc is stopped and thereby the heating is stopped.

Please amend the caption on page 2, line 3, as follows:

SUMMARY ~~OF THE INVENTION~~

Please amend the paragraph beginning at page 3, line 15, and continuing to page 3, line 19, as follows:

~~In~~ Fig. 1 ~~a schematic picture of~~ shows a fiber welding device 1 for welding two fibers 3_l, 3_r to each other with a simultaneous measurement of the transmission through the weld ~~is shown~~. The ~~right~~ left fiber ~~3_r~~ 3_l is at its remote end connected to a light source 5 issuing light into the fiber. The ~~left~~ right fiber ~~3_l~~ 3_r is at its remote end connected to a light detector in the shape of a power meter 7.

Please amend the paragraph beginning at page 3, line 36, and continuing to page 4, line 9, as follows:

The different steps in the heating and welding process are controlled by a control circuit 27, e.g. in the ~~shape~~ form of a suitable microprocessor or computer or a combination of processor and computer that are also connected to the image processing and image analysing unit 25. The control circuit 27 provides signals for performing the different steps the welding process and is connected to the electrodes, the motors and the camera through respective drive circuits/interfaces. It thus controls the movement of the fiber ends in relation to each other by activating the motors 13 in suitable displacement directions and provides signals to the image processing and image analysing unit 25 to start an analysis of taken pictures. Furthermore the control circuit 25 controls the time when a heating or welding is to start, by providing the electrodes 9 with a suitable electric voltage, and controls the time period during which this voltage is to be applied. The control circuit also gives a signal to the light source to activate it to emit light into the fiber 3_l. It receives information of measured power values from the power meter 7.

Please amend the paragraph beginning at page 4, line 26, and continuing to page 4, line 32, as follows:

In tests several interrupts have been made when heating a splice having an initial offset with the same current intensity in the electric arc, see the diagram of Fig. 3 that shows basically the same heating procedure as the diagram of Fig. 2 but with two extra interrupts of the electric arc. The same current intensity has been used during all the

periods when the electric arc is activated after the initial welding of the fiber ends to each other. It appears that the "hops" or "steps" in the graph depends on the present optical loss in the splice, i.e. the loss existing exactly when the electric arc is stopped.

Please amend the paragraph beginning at page 5, line 11, and continuing to page 5, line 19, as follows:

The linear model is generally given by the formula, compare Fig. 3:

$\Delta L = kL + m$ (1)

where ΔL is the magnitude of the step or hop, L is the loss at the start of the step and k and m are constants. They can be determined from experimentally determined measured values. For the determination measurements for a number of interrupts equal to the number of constants or parameters in the model, i.e. in this case two interrupts, are required. For the case shown in Fig. 3 the magnitude of the step $\Delta L1$ for the loss L1 and of the step $\Delta L2$ for the loss L2 can be measured from which values of k and ~~l~~m are calculated.

Please amend the paragraph beginning at page 5, line 20, and continuing to page 5, line 27, as follows:

In the linear model according to the discussion above two constants, k and ~~l~~m, are used which need to be determined. However, if either one of the constants k and ~~l~~m can be assumed to have a value known in advance, only a determination of the other constant is required. A determination of only one constant requires only a measurement of the loss at a single interrupt. Also other models can be conceived that use a suitably selected group of functions from which a specially selected function is selected by measurements at one or more interrupts in real time. Such a group of functions could comprise suitably selected exponential functions.

Please amend the paragraph beginning at page 6, line 1, and continuing to page 6, line 4, as follows:

The small circles in the diagram of Fig. 3 represent the times at which the electric arc has been shut off and has been started respectively. The time during which the electric arc is shut off should have a length of 1.5 ~~till~~ to 3.0 s in order that the splice loss will have time to adopt a stable value.

Please amend the paragraph beginning at page 6, line 10, and continuing to page 6, line 20, as follows:

A plurality of tests has been made and the set values and the obtained losses appear from Table 1. ~~Here~~ In Table 1, current2 is the value of the current intensity that is used during the welding operation and that is also used during the prolonged heating for obtaining the desired loss in the splice in several cases, this being indicated by the fact that current3 equals zero. In other cases a lower current intensity is used after the very splicing operation during the prolonged heating for obtaining the desired loss in the splice, this current velocity being indicated by current3 when this quantity is different from zero. The initial offset can be set so that it gives approximately twice the loss compared to the desired one, i.e. approximately equal to $2AL_{des}$. Table 1 demonstrates that in many cases finished attenuators are obtained having attenuation values very close to the desired values.

Please add the following table on page 6, before line 21, as follows:

Table 1: Experimental results

Current 2		Current 3		Approx. time(s)	Alignment (dB)	Desired Loss (dB)	Result (dB)	Relative error (%)
mA	S	mA	S					
12	0.6	10	90	43	35	15	15.21	1.4
10	0.6	10	90	60	35	15	15.01	0.07
11	80	0	0	32	35	15	15.00	0
11	80	0	0	32	35	15	14.82	1.2
11	80	0	0	28	35	15	14.90	0.7
11	80	0	0	28	35	15	14.88	0.8
10	0.6	11	90	25	35	15	14.82	1.2
10	80	0	0	56	35	15	14.99	0.07
10	80	0	0	51	22	10	9.99	0.1
10	80	0	0	56	14	5	4.98	0.4
10	0.6	11	80	30	14	5	4.92	1.6
10	0.6	11	80	28	13	4	4.00	0
10	0.6	11	80	27	9	3	2.94	2
10	0.6	11	80	25	5.5	2	1.98	1
10	0.6	11	80	29	4.5	1	0.99	1
10	0.6	11	80	28	2.0	0.5	0.47	6

Please amend the paragraph beginning at page 6, line 32, and continuing to page 6, line 33, as follows:

5. Reduce, if desired, the current intensity through the electric arc to a lower constant value and measure ~~all the time~~ the loss in the splice essentially continuously.